

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-055636

(43)Date of publication of application : 26.02.1999

(51)Int.Cl. H04N 7/08
H04N 7/081
H04H 1/00
H04N 5/44
// H04N 7/16

(21)Application number : 09-206733 (71)Applicant : MATSUSHITA ELECTRIC
IND CO LTD

(22)Date of filing : 31.07.1997 (72)Inventor : TSUDA KENJIRO
INAGAKI SATORU

(54) BROADCASTING RECEIVER

(57)Abstract:

PROBLEM TO BE SOLVED: To allow a viewer to control the entering or switching of display of advertisement information by selecting and showing either a program signal that is outputted by a decoded broadcasting data receiving means or an advertisement data signal that is outputted by an advertisement accumulating means.

SOLUTION: The download of a decode software program from a broadcast signal is performed in such a manner that a program receiving means 14 extracts a decode software program that multiplexes a broadcasting signal and outputs in to a program accumulating means 15. When a channel is designated a screen display switching means 19 selects signal that is decoded from an advertisement accumulating means 18 and outputs it to a screen displaying means 20. The download of the decode software program is completed while advertisement data is shown and when decode preparation of broadcasting data of a program is arranged by a program executing means 16 the means 19 switches screen display and outputs a signal that is decoded from the program executing means 16 to the means 20.

CLAIMS

[Claim(s)]

[Claim 1] In a broadcast receiving set which receives a broadcasting signal broadcast by a data-broadcasting method which broadcasts a decode software

program for decoding a program signal of two or more kinds of broadcasting formats and a program signal broadcast by two or more channels. An advertising accumulation means which accumulates advertisement information and is held and a channel separation means which can separate a signal of two or more channels from the above-mentioned broadcasting signal simultaneously and can be outputted. A broadcast data receiving means which receives a program signal from one of two or more of the outputs of this channel separation means and decodes this. A program reception means which receives a decode software program from a different output from an output from which the above-mentioned broadcast data receiving displaying means receives a program signal among two or more outputs of the above-mentioned channel separation means. By a decode software program accumulated in a program storage means holding the above-mentioned decode software program and the above-mentioned program storage means. A broadcast receiving set provided with a screen-display switching means which chooses and displays either a program signal which the above-mentioned broadcast data receiving means decoded outputs or an advertisement information signal which the above-mentioned advertising accumulation means outputs.

[Claim 2] In the broadcast receiving set according to claim 1, the above-mentioned screen-display switching means. When a decode software program for decoding a program signal outputted from the above-mentioned channel separation means is not held at the above-mentioned program storage means. A broadcast receiving set being what chooses and displays an advertisement information signal which the above-mentioned advertising accumulation means outputs until download using the above-mentioned program reception means of the above-mentioned decode software program is completed from a broadcasting signal.

[Claim 3] In the broadcast receiving set according to claim 2, specify a channel received from inside of two or more above-mentioned channels and by determination of the following download existence determination means. A channel setting means which specifies the following channel and specifies two or more above-mentioned channels of all one by one at the time of determination with those with download. It is checked whether a decode software program for decoding a program signal broadcast by a channel specified by this channel setting means is held at the above-mentioned program storage means. A broadcast receiving set which will be characterized by having further those with download and a download existence determination means to make a decision to have no download if not held if held.

[Claim 4] An advertisement addition information extraction means which extracts additional information by which a televiewer layer made into an object of the advertisement information concerned added to this advertisement information is characterized from the above-mentioned advertisement information in Claim 1 and a broadcast receiving set given in 2. A personal information entry means to input from the outside personal information by which a televiewer who acquires the above-mentioned advertisement information is characterized. An information comparison means which compares additional information extracted by the above-

mentioned advertisement addition information extraction means with personal information inputted from the above-mentioned personal information entry meansA broadcast receiving set having further an advertising selecting means which outputs advertisement information in which the additional information concerned was added to the above-mentioned advertising accumulation means when a result compared by the above-mentioned information comparison means is acquired and the above-mentioned additional information and the above-mentioned personal information agree.

[Claim 5]Advertising viewing information holding mechanism acquired and held as advertising viewing information concerning [that the above-mentioned screen-display switching means chose and displayed advertisement information outputted from an advertising accumulation means in Claim 1 and a broadcast receiving set given in 2and] advertising viewing and listening. Held beforehand what a program signal outputted from the above-mentioned channel separation means was decoded for by decode software program for decoding this program signal with program viewing information holding mechanism acquired and held as program viewing information about program viewing and listening. Accounting information the amount of money charged by program viewing and listening and the amount of money exempted by advertising viewing and listening were indicated to beBased on the above-mentioned advertising viewing information and the above-mentioned program viewing informationthe amount of money exempted by advertising viewing and listening and the amount of money charged by program viewing and listening are checkedA broadcast receiving set having deducted the amount of money exempted from the amount of money chargedand having further an accounting information calculating means which calculates audience fee gold charged at a televiewer.

[Claim 6]A broadcast receiving set characterized by the above-mentioned accounting information calculating means being what transmits a totaled result which summarized the above-mentioned advertising viewing information and the above-mentioned program viewing information to the transmitting side of the above-mentioned broadcasting signal via a means of communication in the broadcast receiving set according to claim 5.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]Especially this invention relates to the broadcast receiving set which receives the program of several broadcasting formats with which decoding systems differ about a broadcast receiving set.

[0002]

[Description of the Prior Art]Broadcast contractorssuch as the Television Sub-Division broadcasting station where drawing 7 is a figure showing the composition

of the broadcasting system which used the broadcasting satellite and 201 broadcasts the broadcasting signal of 1 or two or more channels in a figure respectively. 202 is a broadcasting organization who comprises a broadcasting satellite which receives the broadcasting signal from two or more broadcast contractors. 201 processes this broadcasting signal and transmits to a viewer terminal (broadcast receiving set).

[0003] All the broadcast contractors the conventional broadcasting system about all the channels. Common broadcasting formats (an image transmission system, an image coding mode, etc.) such as MPEG perform program production and broadcast sending out, and the hardware for exclusive use corresponding to this common broadcasting format is used in the televiewer side, and broadcast is received and it reproduces. That is, in the conventional broadcasting system as shown in drawing 8, it was broadcast by the broadcast contractor 201, the data of MPEG, etc. which went via the broadcasting organization 202, was received by the dedicated hardware of the broadcast receiving set, and the full-screen display was performed to TV, etc.

[0004] On the other hand, the video-signal processing currently conventionally processed only by dedicated hardware, by the improved efficiency of the computer is also realizable by the software processing using general-purpose hardware. That is, if signal processing by such software is used, it is possible by loading the decode software program (library) for decoding each broadcast data to general-purpose hardware to decode several broadcast data in which broadcasting formats differ. Thus, if it becomes possible to decode several broadcast data in which broadcasting formats differ by a receiver, the broadcast in which various broadcasting formats such as data broadcasting of a different form from the conventional image/audio broadcast, such as CG broadcast and animation broadcast, were intermingled will be attained. In addition to broadcast of only the conventional image, the data of text, data, CG, etc. can be associated and distributed in such a broadcasting system. There is a merit to which it is possible to create the contents in which the work side was also absorbed, and a user can also receive various contents including interactive service only from the conventional service to see. For example, it is possible to display two or more contents depended on a broadcasting format which makes several data in which broadcasting formats differ in the program of one channel intermingled, broadcasts as shown in drawing 9, and is different on 1 screen in a receiver, etc.

[0005] If the decode software program for decoding broadcast data is distributed by broadcast, even when the broadcast receiving set side does not hold the decode software program for decoding a certain broadcast data, since this decode software program can be downloaded from broadcast and broadcast data can be decoded, there is an advantage which can be adapted also when the receiving set side does not always need to hold the decode software program (library) of various sorts, and there is an advantage that it is not necessary to provide a mass memory measure in the receiving set side and a new broadcasting format is used by the program donor side.

[0006] As a form which distributes the decode software program for decoding

broadcast data by broadcastThe method of carrying out multiplex [of the decode software program for decoding the broadcast data for decoding the broadcast data broadcast by the channel for every channel as shown in drawing 2 (a)] and broadcasting itThe program cleared channel which broadcasts only the decode software program for decoding broadcast data apart from [as shown in drawing 2 (b)] the channel which broadcasts broadcast data is providedHow to repeat and broadcast the decode software program for decoding the broadcast data broadcast by the channel which broadcasts broadcast data by this program cleared channel can be considered.

[0007]The broadcast receiving set used with the broadcasting system which distributes the decode software program for decoding such broadcast dataIt has a program storage means (library buffer) holding a decode software program (library)Broadcast data is decoded using the decode software program accumulated in this program storage meansWhen the decode software program for decoding the received broadcast data is not held at a program storage meansthe composition of downloading and using the decode software program broadcast as mentioned above if needed can be considered.

[0008]

[Problem to be solved by the invention]By the wayin the conventional broadcasting systemCM (Commercial Film) is broadcast in the middle of program broadcast by the broadcast from almost all broadcasting stations. Although the televiewer can choose a desired program by broadcasting hours and can watch itwhat CM not to see about CM in the middle of the program broadcast of program broadcast to watch since it is broadcast very much in several steps at a part of time and broadcasting hours or the contents of CM cannot be known is broadcast has happened. A broadcasting station requires audience fee gold of a televiewerand it becomes unnecessary however to collect program production costs by passing CM which advertizes the goods of the company which provides a program production costand a company instead of the broadcasting station which makes a program and is broadcast receiving a program production cost from the company which provides a program production cost. Thereforesince the televiewer can view and listen to a program for free by seeing CMhe also needs to broadcast CM. The televiewer who makes CM precious sources of information also existsand CM as for which CM ***** is not to see by a televiewer also exists.

[0009]If these problems can be chosen like [CM] a programit will be solvedbut in the conventional broadcasting systemsince mere picture image data is broadcastCM is compounded with the image of a program at the transmitting sideand is broadcast as picture image data inserted in the program. Thereforewhen picture image data was sent out by broadcastthe enter end of only the CM part of this picture image data was not once able to be controlled.

[0010]In the broadcast receiving set used with the broadcasting system which was made in order that this invention might cancel this problemand used signal processing by softwareBy transmitting and accumulating advertising (CM) information as data independent of an imageBy downloading the program for a

program display while being able to control the enter and of presenting of advertisement information by a receiver and displaying advertisement information moreover. It aims at providing the broadcast receiving set which can perform comfortable zapping by reducing the displeasure of the televiewer by a program download time delay and displaying advertisement information especially at the time of zapping.

[0011] In the broadcast receiving set used with the broadcasting system using signal processing according [this invention] to software. It aims at providing the broadcast receiving set which can choose automatically the advertisement information which suited the televiewer for every televiewer and can display it from the advertisement information prepared according to a televiewer's layer. [much]

[0012] In the broadcast receiving set used with the broadcasting system using signal processing according [this invention] to software. The viewing information (viewing time, the number of times of viewing and listening etc.) of CM is recorded and it aims at providing the broadcast receiving set which can realize the charge system which performs discount from audience fee of a pay program according to CM viewing information.

[0013]

[Means for solving problem] In order to solve an aforementioned problem, the broadcast receiving set concerning this invention (Claim 1) In the broadcast receiving set which receives the broadcasting signal broadcast by the data-broadcasting method which broadcasts the decode software program for decoding the program signal of two or more kinds of broadcasting formats and the program signal broadcast by two or more channels. The advertising accumulation means which accumulates advertisement information and is held and the channel separation means which can separate the signal of two or more channels from the above-mentioned broadcasting signal simultaneously and can be outputted. The broadcast data receiving means which receives a program signal from one of two or more of the outputs of this channel separation means and decodes this. The program reception means which receives a decode software program from a different output from the output from which the above-mentioned broadcast data receiving means receives a program signal among two or more outputs of the above-mentioned channel separation means. By the decode software program accumulated in the program storage means holding the above-mentioned decode software program and the above-mentioned program storage means. It has a screen-display switching means which chooses and displays either the program signal which the above-mentioned broadcast data receiving means decoded outputs or the advertisement information signal which the above-mentioned advertising accumulation means outputs.

[0014] The broadcast receiving set concerning this invention (Claim 2) In the broadcast receiving set according to claim 1, the above-mentioned screen-display switching means. When the decode software program for decoding the program signal outputted from the above-mentioned channel separation means is not held at the above-mentioned program storage means. The advertisement information

signal which the above-mentioned advertising accumulation means outputs is chosen and displayed until the download using the above-mentioned program reception means of the above-mentioned decode software program is completed from a broadcasting signal.

[0015]The broadcast receiving set concerning this invention (Claim 3)In the broadcast receiving set according to claim 2specify the channel received from the inside of two or more above-mentioned channelsand by determination of the following download existence determination means. The channel setting means which specifies the following channel and specifies two or more above-mentioned channels of all one by one at the time of determination with those with downloadIt is checked whether the decode software program for decoding the program signal broadcast by the channel specified by this channel setting means is held at the above-mentioned program storage meansIf heldit will have further those with downloadand a download existence determination means to make a decision to have no download if not held.

[0016]The broadcast receiving set concerning this invention (Claim 4)The advertisement addition information extraction means which extracts the additional information by which the televiewer layer made into the object of the advertisement information concerned added to this advertisement information is characterized from the above-mentioned advertisement information in Claim 1 and a broadcast receiving set given in 2A personal information entry means to input from the outside the personal information by which the televiewer who acquires the above-mentioned advertisement information is characterizedThe information comparison means which compares the additional information extracted by the above-mentioned advertisement addition information extraction means with the personal information inputted from the above-mentioned personal information entry meansWhen the result compared by the above-mentioned information comparison means is acquired and the above-mentioned additional information and the above-mentioned personal information agreeit has an advertising selecting means which outputs the advertisement information in which the additional information concerned was added to the above-mentioned advertising accumulation means.

[0017]The broadcast receiving set concerning this invention (Claim 5)The advertising viewing information holding mechanism acquired and held as advertising viewing information concerning [that the above-mentioned screen-display switching means chose and displayed the advertisement information outputted from an advertising accumulation means in Claim 1 and a broadcast receiving set given in 2and] advertising viewing and listening. Held beforehand what the program signal outputted from the above-mentioned channel separation means was decoded for by the decode software program for decoding this program signal with the program viewing information holding mechanism acquired and held as program viewing information about program viewing and listening. The accounting information the amount of money charged by program viewing and listening and the amount of money exempted by advertising viewing and listening were indicated to

beThe amount of money exempted by advertising viewing and listening based on the above-mentioned advertising viewing information and the above-mentioned program viewing information and the amount of money charged by program viewing and listening deduct the amount of money which it is checked and is exempted from the amount of money chargedand is provided with the accounting information calculating means which calculates the audience fee gold charged at a televiewer. [0018]The broadcast receiving set concerning this invention (Claim 6) transmits the totaled result by which the above-mentioned accounting information calculating means summarized the above-mentioned advertising viewing information and the above-mentioned program viewing information to the transmitting side of the above-mentioned broadcasting signal via a means of communication in the broadcast receiving set according to claim 5.

[0019]

[Mode for carrying out the invention]

embodiment 1. -- in the broadcasting system using signal processing by softwareprogram broadcast stores beforehand the advertising (CM) data sent separatelyand the broadcast receiving set by the embodiment of the invention 1 displays the fixed time in front of a program broadcast startand this advertisement information.

[0020]As a kind of the above-mentioned advertisement informationvideoa still picturean animation picturea HTML form fileURLa telephone numberetc. are raised. About videothe still pictureand the animation pictureit is broadcast in the present broadcasting system. The HTML form file is used widely on the Internet etc.is a broadcasting system using signal processing by softwareand becomes available as a character advertisement. It is also possible URL which is an Internet addressand for a televiewer to connect with the URL and telephone numberand to acquire the thing of a televiewer's request with reference to an advertising homepagewhen only a telephone number is sent by broadcast.

[0021]As a form of transmission of the above-mentioned advertisement informationas mentioned abovemultiplex [of the advertisement information to accumulate besides in case URL and a telephone number are sent by broadcast] is carried out to the image stream of a programand it is transmitted to itand it dissociates by a receiver or is transmitted by an advertisement information cleared channel. Or it may be distributed by mailing etc. as storagessuch as CD-ROM.

[0022]Drawing 1 is a figure showing the composition of the broadcast receiving set by the embodiment of the invention 1. In drawing 1 11 is a broadcast receiving means and receives the broadcast data distributed by the broadcasting organization. 12 is a channel separation meansand separates and outputs the signal of a specific channel from the inside of the received broadcasting signal. This channel separation means 12 separates the signal of two channels independentlyrespectivelyand outputs it to the output terminals a and brespectively. 13 is a broadcast data receiving means and acquires the broadcast data of a program from the signal outputted to the output terminal a of the

channel separation means 12. 14 is a program reception means and acquires the decode software program for decoding broadcast data from the signal outputted to the output terminal b of the channel separation means 12. 15 is a program storage means and accumulates and holds the decode software program which the program reception means 14 acquired. 16 is a program execution means and decodes the broadcast data which the broadcast data receiving means 13 acquired using the decode software program held at the program storage means 15. 17 is an advertising (CM) reception means and receives the advertising (CM) data sent separately from the image stream of a program. 18 is an advertising (CM) accumulation means and accumulates and holds the advertisement information which the advertising (CM) reception means 17 acquired. 19 is a screen-display switching means it changes the input from the program execution means 16 and the input from the advertising (CM) accumulation means 18 chooses the signal decoded from either and outputs it to a screen-display means. 20 is a screen-display means inputs the signal selected by the screen-display switching means 19 and performs a screen display a phonological representation etc.

[0023] Next operation is explained. First the advertisement information transmitted by an advertisement information cleared channel is received by the advertising (CM) reception means 17 and this advertisement information is accumulated and held by the advertising (CM) accumulation means 18. Next if a televiewer inputs a desired program with the remote control etc. from the inside of the broadcasting signal which the broadcast receiving means 11 received the channel separation means 12 will separate the broadcasting signal of the channel of the program for which a televiewer asks and will output this to the output terminal a. And the broadcast data receiving means 13 acquires the broadcast data of a program from the signal outputted to the output terminal a. Here the download from the broadcasting signal of a decode software program As the distribution form of the decode software program from a broadcasting organization shows drawing 2 (a) It is what carries out multiplex [of the decode software program for decoding the broadcast data broadcast by the channel for every channel] and broadcasts it It carries out when the broadcasting signal of the channel with which the channel separation means 12 was chosen is outputted from the output terminal and the program reception means 14 extracts the decode software program by which multiplex was carried out to the broadcasting signal which the channel separation means 12 outputs and outputs to the program storage means 15. This decode software program is accumulated in the program storage means 15. A decode software program is loaded to the program execution means 16 and simultaneously with this accumulation the program execution means 16 decodes the broadcast data of the program outputted from the broadcast decoding reception means 13. At this time even if time is required and a televiewer specifies a channel until it downloads the above-mentioned decode software program and this downloaded decode software program is executed in an instant a screen display is not carried out. Then shortly after a televiewer specifies a channel the screen-display switching means 19 chooses the signal decoded from the advertising (CM) accumulation

means 18 and outputs it to the screen-display means 20. The advertisement information currently accumulated and held is beforehand expressed to the advertising (CM) accumulation means 18 as the screen-display means 20. And while advertisement information is displayed download of the above-mentioned decode software program is completed and by the program execution means 16. When decoding preparation of the broadcast data of the above-mentioned program is completed by this decode software program the screen-display switching means 19 changes a screen display and outputs the signal decoded from the program execution means 16 to the screen-display means 20. The program for which a televiewer asks is expressed as the screen-display means 20.

[0024] Here although it shall be transmitted by an advertisement information cleared channel and advertisement information received by the advertising (CM) reception means 17 shall be accumulated in the advertising (CM) accumulation means 18 advertisement information which was transmitted variously and received can be accumulated like explanation of a form of transmission of above-mentioned advertisement information. What was distributed by mailing etc. as storage such as CD-ROM can also be read and accumulated.

[0025] Above download from a broadcasting signal of a decode software program As a distribution form of a decode software program from a broadcasting organization shows drawing 2 (a) shall carry out multiplex [of the decode software program for decoding broadcast data broadcast by the channel for every channel] and shall broadcast it but. As a distribution form of a decode software program from a broadcasting organization shows drawing 2 (b) A program cleared channel which broadcasts only a decode software program for decoding broadcast data apart from a channel which broadcasts broadcast data is provided When it is what repeats and broadcasts a decode software program for decoding broadcast data broadcast by a channel which broadcasts broadcast data by this program cleared channel The channel separation means 12 outputs a broadcasting signal of a program cleared channel from the output terminal b It carries out when the program reception means 19 extracts a decode software program by which multiplex was carried out to a broadcasting signal which the channel separation means 12 outputs and outputs to the program storage means 20.

[0026] Since the channel separation means 12 can output the broadcasting signal of two different channels independently of the output terminals a and b respectively Between downloads of a decode software program a decode software program required for decoding of broadcast data can output the broadcasting signal of other channels currently held at the program storage means 20 from the output terminal a and can carry out a screen display of a program.

[0027] It cannot be overemphasized that a screen display can not only be carried out but the televiewer can choose an advertising display like a program at any time after the above-mentioned advertisement information specifies a program as mentioned above before the program concerned is displayed on a screen and a screen display only of the advertisement information can be carried out. The advertising (CM) accumulation means 18 can be viewed [if advertisement

information is accumulated and the list of the accumulated advertisement information will be created] and listened by the televiewer by choosing a desired thing out of the accumulated advertisement information.

[0028] Thus since the broadcast receiving set by this Embodiment 1 considered advertising (CM) information as the composition transmitted and accumulated as data independent of an image it can control the enter end of a televiewer presenting of advertisement information. Since advertisement information was considered as the composition which carries out a screen display until it completed download when the program which needs to download a decode software program was specified the displeasure of the televiewer by a program download time delay is mitigable.

[0029] Embodiment 2. drawing 3 is a figure showing the composition of the broadcast receiving set by the embodiment of the invention 2. In drawing 3 it is a portion that drawing 1 and identical codes are the same or considerable and 21 is an input means and inputs directions of the exterior such as a remote control. 22 is a channel setting means and specifies the channel outputted to the output terminal a by the channel separation means 12 based on the input from the input means 21. 23 is a download existence determination means The program data of the channel outputted to the output terminal a by the channel separation means 12 is compared with the decode software program currently held at the program storage means 15. It is a download existence determination means to determine whether download a decode software program from a broadcasting signal.

[0030] Drawing 4 is a flow chart figure for explaining operation of the broadcast receiving set by this Embodiment 2. Hereafter operation of the broadcast receiving set by this Embodiment 2 is explained along with figures.

[0031] First the advertisement information transmitted by an advertisement information cleared channel is received by the advertising (CM) reception means 17 like the above-mentioned Embodiment 1 and this advertisement information is accumulated and held by the advertising (CM) accumulation means 18. Next if a televiewer starts zapping using the input means 17 of a remote control etc. (S1) the download existence determination means 18 will detect a decode software program required for decoding of the broadcast data of a channel with the selected channel setting means 22 (S2). Here the broadcast data distributed by the broadcasting organization It has the tag part the decode software program name used in order to decode the data was described to be The download existence determination means 18 is chosen by the channel setting means 22 looks at this tag part of the broadcast data of the channel separated by the channel separation means 12 and detects a decode software program required for decoding of broadcast data. Next it is investigated whether as for the download existence determination means 18 the decode software program detected at Step S2 is held at the program storage means 20 (S3). And when the decode software program detected at Step S2 is held at the program storage means 20 this decode software program is loaded to the program execution means 16. And the channel separation means 12 outputs the selected channel to the output terminal at the broadcast data

receiving means 13 acquires broadcast data from the output of the channel separation means 12 and the program execution means 16 decodes the output of the broadcast data receiving means 13 (S4). The screen-display switching means 19 outputs the input from the broadcast data receiving means 13 to the screen-display means 15 and this screen-display means 15 displays a picture etc. based on the decode output from the program execution means 16 (S6). Now ch1 should be displayed.

[0032] Next if fixed time decoding of the broadcast data of ch1 is carried out with the program execution means 16 in order to decode (S4) and the broadcast data of ch2 it returns to Step 2. And when it is judged that the decode software program detected at Step 2 is not held in Step 3 at the program storage means 20. While starting the download from the broadcasting signal of this decode software program the screen-display switching means 19 is changed to the input from the advertising (CM) accumulation means 18 and outputs the signal decoded from the advertising (CM) accumulation means 18 to the screen-display means 20. A screen display of the advertisement information is carried out in the screen-display means 20. While advertisement information is displayed the decode software program for decoding ch2 downloads. The above-mentioned download is completed and in Step 3 if it is judged that the above-mentioned decode software program is held at the program storage means 20 the program execution means 16 will decode the broadcast data of ch2 like the case of ch1 (S4). The screen-display switching means 19 is changed to the input from the broadcast data receiving means 13 it outputs to the screen-display means 15 and this screen-display means 15 displays a picture etc. based on the decode output from a program execution means (S6). By the program execution means 16 if fixed time decoding of the broadcast data of ch2 is carried out in order to decode (S4) and the broadcast data of following ch3 it returns to Step 2 the above operation is repeated and zapping is performed.

[0033] Thus in the broadcast receiving set by this Embodiment 2. When the channel which needs download of a program and the channel which is not needed are distinguished and you need download in the case of zapping till the completion of download. Since the advertisement accumulated beforehand was considered as the composition which carries out a screen display. By not holding the decode software program required for decoding of the broadcast data of the selected channel at a program storage means it is avoided that it will be in the state where nothing is displayed on a display screen and it can perform comfortable zapping.

[0034] Embodiment 3. drawing 5 is a figure showing the composition of the broadcast receiving set by the embodiment of the invention 3. In drawing 5 it is a portion that drawing 1 and identical codes are the same or considerable and 31 is an advertising (CM) additional information extracting means and extracts the information by which the televiewer layer added to advertisement information is characterized. 32 is a personal information entry means and a televiewer inputs the personal information by which self is characterized from the exterior. 33 is an information comparison means and compares the additional information extracted

by the advertising (CM) additional information extracting means 31 with the personal information into which it was inputted by the personal information entry means 32. 34 is an advertising (CM) selecting means and chooses the advertisement information in which the additional information judged to agree with personal information by comparison by the information comparison means 33 was added.

[0035] Here although some advertisement information is various it is created supposing a televiewer who receives information respectively. For example a hobby [like / for those who play for / which plays age for old persons and like for young men sex and tennis / persons and golf] etc. are set up and the target televiewer is assumed. A header of the advertisement information concerned indicates age sex a hobby etc. which were set up when creating this advertisement information as additional information of that advertisement information. Therefore the above-mentioned personal information is information including age of a televiewer who corresponds to the above-mentioned additional information and accumulates advertisement information sex a hobby etc.

[0036] Next operation is explained. First advertisement information transmitted is received by the advertising (CM) reception means 17 like Embodiment 1 and while extracting the above-mentioned additional information indicated to a header of this advertisement information by the advertising (CM) additional information extracting means 31 the above-mentioned advertisement information is sent out to an advertising (CM) selecting means. On the other hand additional information extracted by the advertising (CM) additional information extracting means 31 is compared with personal information which a televiewer inputted with a keyboard etc. beforehand in the information comparison means 33. It is outputted to an advertising (CM) selecting means and if this result says that the above-mentioned additional information agrees with the above-mentioned personal information a result of comparison will output advertisement information in which this additional information was indicated to the advertising (CM) accumulation means 18 and will accumulate it. On the other hand if the above-mentioned result says that it does not agree advertisement information in which the above-mentioned additional information was indicated will not be outputted to the advertising (CM) accumulation means 18. Thus advertisement information accumulated in the advertising (CM) accumulation means 18 Like Embodiment 1 when a televiewer chooses an advertising display a screen display is carried out or a televiewer specifies a program download of a decode software program required in order to decode the program concerned is completed and a screen display will be carried out by the time the program concerned is displayed on a screen.

[0037] Thus in the broadcast receiving set by this Embodiment 3. If the information by which the televiewer layer of the advertisement information concerned added to advertisement information is characterized is compared with the personal information of the televiewer who is going to view and listen to advertisement information and it has agreed Since the advertisement information concerned shall be accumulated in an advertising (CM) accumulation means from the advertisement

information prepared according to a televiewer's layer the advertisement information which suited the televiewer for every televiewer can be chosen automatically and can be displayed. [much]

[0038] embodiment 4. -- the broadcast receiving set by the embodiment of the invention 3 obtains accounting information by the program to which it viewed and listened and by which a screen display was carried out like the above-mentioned Embodiment 1 advertising viewing time etc. As mentioned above it can view [the televiewer] instead of the broadcasting station which makes a program and is broadcast receiving a program production cost from the company which provides a program production cost and listen to a program for free by viewing and listening to an advertisement by pouring the advertisement which advertizes the goods of the company which provides a program production cost and a company. Since it is broadcast by the program and the image stream with which the advertisement was united when viewing and listening to a certain program in the conventional broadcasting system it will view and listen to the advertisement of a program donor of this program. However when choosing a program and an advertisement arbitrarily independently and viewing and listening to them even if it views and listens to a certain program it does not necessarily view [it carries out like the above-mentioned Embodiment 1 and] and listen to the advertisement of a program donor of the program concerned. Then taking keeping accounts between all the programs and advertisements to which the televiewer viewed and listened is assumed.

[0039] Drawing 6 is a figure showing the composition of the broadcast receiving set by the embodiment of the invention 3. In drawing 6 it is a portion that drawing 1 and identical codes are the same or considerable and 41 is advertising viewing time holding mechanism and records and holds the time etc. which viewed and listened to an advertisement. 42 is program viewing time holding mechanism and records and holds the time etc. which viewed and listened to a program. 43 is an accounting information calculating means and calculates audience fee gold from the accounting information which indicated the amount of money charged by an advertisement the time which viewed and listened to a program and the time which viewed and listened to a program and the amount of money exempted by the time which viewed and listened to an advertisement.

[0040] Next operation is explained. First advertisement information is accumulated and held by the advertising (CM) accumulation means 18 like Embodiment 1. When a televiewer chose an advertising display with the remote control etc. and does a screen display only of the advertisement information in response to the fact that the screen-display switching means 19 outputted advertisement information outputted from the advertising (CM) accumulation means 18 to the screen-display means 20 the advertising viewing time holding mechanism 41 makes this output time advertising viewing time and records and holds it. Or when a decode software program required in order that a televiewer may choose a program with the remote control etc. and may decode this program has not downloaded like Embodiment 1 the screen-display switching means 19 receives advertisement information outputted from the advertising (CM) accumulation means 18 until the above-

mentioned program is decoded by the above-mentioned decode software program by the program execution means 16. The screen-display switching means 19 makes time which outputted the above-mentioned advertisement information to the screen-display means 20 advertising viewing time and the advertising viewing time holding mechanism 41 is recorded and holds it. And if the above-mentioned download is completed and broadcast data of a program is outputted from the program execution means 16 the screen-display switching means 19 will change an input the broadcast data concerned will be outputted to the screen-display means 20 and a screen display of the program will be carried out. At this time the program viewing time holding mechanism 42 records time to execute the above-mentioned data software program by the program execution means 16 and decode the above-mentioned program. In the program viewing time holding mechanism 42 not only in when a decode software program has not downloaded as mentioned above but broadcast data of a program is decoded also including a case where already download and it is accumulated in the program storage means 15 all the time will be recorded. And the accounting information calculating means 43 acquires the above-mentioned advertising viewing time and the above-mentioned program viewing time from the advertising viewing time holding mechanism 41 and the program viewing time holding mechanism 42 once per week periodically respectively for example. Accounting information the amount of money charged in the accounting information calculating means 43 by time which viewed and listened to a program and the amount of money exempted by time which viewed and listened to an advertisement were indicated to be is set up beforehand. By comparing the above-mentioned advertising viewing time and the above-mentioned program viewing time with this accounting information Audience fee gold charged at a televiewer is calculated by the amount of money from which a televiewer is exempted at time which viewed and listened to an advertisement at one week and the amount of money charged at time which viewed and listened to a program deducting the amount of money which it is checked and is exempted from the amount of money charged. This audience fee gold may be notified to the broadcasting station side via a telephone line etc. sets a card very to the accounting information calculating means 43 etc. like electronic money and it may be made to deduct it from the amount of money of this card.

[0041] Here although the amount of money charged by the time when the above-mentioned accounting information viewed and listened to a program and the amount of money exempted by the time which viewed and listened to an advertisement were indicated as for these the amount of money uniformly charged and exempted from how much and an advertisement like how much was indicated in between when as for the program. However when the amount of money by which the above-mentioned accounting information is charged for every program at viewing and listening of fixed time differs from the amount of money exempted by viewing and listening of fixed time for every advertisement to the advertising viewing time holding mechanism 41. The information which specifies an advertisement besides advertising viewing time is also required it must record

which carried out time viewing and listening and which advertisement must be held. Similarly the viewing time for every program is recorded and held also to the program viewing time holding mechanism 42. When it is difficult to set beforehand different accounting information for every program and every advertisement as the accounting information calculating means 43. The accounting information calculating means 43 summarizes the viewing time for every advertisement acquired from the advertising viewing time holding mechanism 41 and the program viewing time holding mechanism 42 respectively and the viewing time for every program transmits to the broadcasting station side via a telephone line etc. and calculates audience fee gold by the broadcasting station side.

[0042] The audience fee gold calculated by the accounting information calculating means 43 has long advertising viewing time when hardly viewing and listening to a program changes to 0 yen and becomes minus of a number of yen substantially. Contrary to last week it hardly views and listens to an advertisement this week but if audience fee gold is calculated weekly although it is minus of what yen substantially since program viewing time was long it may become big-ticket audience fee gold as mentioned above last week. Then as a part for this week is filled up by a part for last week if it is minus the amount of money of the minus will be held to the accounting information calculating means 43 etc. till last week. Or when a card is very set to the accounting information calculating means 43 etc. as mentioned above and it is made to deduct from the amount of money of this card it may be made to add the amount of money of minus to the amount of money of the card concerned as the amount of money of plus.

[0043] Thus in the broadcast receiving set by this Embodiment 4. Based on the accounting information which indicated the amount of money charged by advertising viewing time program viewing time etc. which were held and the time which viewed and listened to a program and the amount of money exempted by the time which viewed and listened to an advertisement Since audience fee gold shall be calculated the charge system which performs discount from audience fee gold of a pay program according to advertising viewing information (viewing time the number of times of viewing and listening etc.) is realizable.

[0044]

[Effect of the Invention] It is effective in the ability of a televiewer to control the enter end of presenting of advertisement information.

[0045] According to this invention (Claim 2) in the broadcast receiving set according to claim 1 the above-mentioned screen-display switching means When the decode software program for decoding the program signal outputted from the above-mentioned channel separation means is not held at the above-mentioned program storage means Until the download using the above-mentioned program reception means of the above-mentioned decode software program is completed from a broadcasting signal Since it had composition which chooses and displays the advertisement information signal which the above-mentioned advertising accumulation means outputs the displeasure of the televiewer by a program download time delay is mitigable.

[0046]In [according to this invention (Claim 3)] the broadcast receiving set according to claim 2From the inside of two or more above-mentioned channelsspecify the channel to receive and by determination of the following download existence determination means. The channel setting means which specifies the following channel and specifies two or more above-mentioned channels of all one by one at the time of determination with those with downloadIt is checked whether the decode software program for decoding the program signal broadcast by the channel specified by this channel setting means is held at the above-mentioned program storage meansSince those with download and a download existence determination means to make a decision to have no download if not held were considered as the composition which it had further when heldBy not holding the decode software program required for decoding of the broadcast data of the selected channel at a program storage meansit is avoided that it will be in the state where nothing is displayed on a display screenand it is effective in the ability to perform comfortable zapping.

[0047]In [according to this invention (Claim 4)] Claim 1 and a broadcast receiving set given in 2The advertisement addition information extraction means which extracts the additional information by which the televiewer layer made into the object of the advertisement information concerned added to this advertisement information is characterized from the above-mentioned advertisement informationA personal information entry means to input from the outside the personal information by which the televiewer who acquires the above-mentioned advertisement information is characterizedThe information comparison means which compares the additional information extracted by the above-mentioned advertisement addition information extraction means with the personal information inputted from the above-mentioned personal information entry meansWhen the result compared by the above-mentioned information comparison means is acquired and the above-mentioned additional information and the above-mentioned personal information agreeSince it had composition provided with the advertising selecting means which outputs the advertisement information in which the additional information concerned was added to the above-mentioned advertising accumulation meansthere is an effect which can choose automatically the advertisement information which suited the televiewer for every televiewerand can display it from the advertisement information prepared according to a televiewer's layer. [much]

[0048]In [according to this invention (Claim 5)] Claim 1 and a broadcast receiving set given in 2The advertising viewing information holding mechanism which acquires and holds that the above-mentioned screen-display switching means chose and displayed the advertisement information outputted from an advertising accumulation means as advertising viewing information about advertising viewing and listening. Held beforehand what the program signal outputted from the above-mentioned channel separation means was decoded for by the decode software program for decoding this program signal with the program viewing information holding mechanism acquired and held as program viewing information about

program viewing and listening. The accounting information the amount of money charged by program viewing and listening and the amount of money exempted by advertising viewing and listening were indicated to beBased on the above-mentioned advertising viewing information and the above-mentioned program viewing informationthe amount of money exempted by advertising viewing and listening and the amount of money charged by program viewing and listening are checkedThe amount of money exempted from the amount of money charged is deductedand since it had composition provided with the accounting information calculating means which calculates the audience fee gold charged at a televiewerit is effective in the charge system which performs discount from audience fee gold of a pay program according to advertising viewing information (viewing timethe number of times of viewing and listeningetc.) being realizable.

[0049]According to this invention (Claim 6)in the broadcast receiving set according to claim 5 the above-mentioned accounting information calculating meansSince the totaled result which summarized the above-mentioned advertising viewing information and the above-mentioned program viewing information shall be transmitted to the transmitting side of the above-mentioned broadcasting signal via a means of communicationit is effective in the charge system which performs discount from audience fee gold of a pay program according to advertising viewing information (viewing timethe number of times of viewing and listeningetc.) being realizable.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is a block diagram showing the composition of the broadcast receiving set by Embodiment 1.

[Drawing 2]It is a figure showing the example of the form for decoding broadcast data by broadcast which carries out decode software program distribution.

[Drawing 3]It is a block diagram showing the composition of the broadcast receiving set by Embodiment 2.

[Drawing 4]It is a flow chart figure for explaining operation of the broadcast receiving set by Embodiment 2.

[Drawing 5]It is a block diagram showing the composition of the broadcast receiving set by Embodiment 3.

[Drawing 6]It is a block diagram showing the composition of the broadcast receiving set by Embodiment 4.

[Drawing 7]It is a figure showing the composition of the broadcasting system using a broadcasting satellite.

[Drawing 8]It is a figure showing an example of a screen display of a broadcast receiving set which received the data and this which are broadcast by the broadcast contractor in the conventional broadcasting system.

[Drawing 9]It is a figure showing an example of a screen display of a broadcast

receiving set which received the data and this which are broadcast by the broadcast contractor in the broadcasting system using signal processing by software.

[Explanations of letters or numerals]

- 11 Broadcast receiving means
 - 12 Channel separation means
 - 13 Broadcast data receiving means
 - 14 Program reception means
 - 15 Program storage means
 - 16 Program execution means
 - 17 Advertising (CM) reception means
 - 18 Advertising (CM) accumulation means
 - 19 Screen-display switching means
 - 20 Screen-display means
 - 21 Input means
 - 22 Channel setting means
 - 23 Download existence determination means
 - 31 Advertising (CM) additional information extracting means
 - 32 Personal information entry means
 - 33 Information comparison means
 - 34 Advertising (CM) selecting means
 - 41 Advertising viewing time holding mechanism
 - 42 Program viewing time holding mechanism
 - 43 Accounting information calculating means
-